

Work Order ID 94455

\*94455\*

Page 1

December-19-12 11:08:15 AM

Item ID: D3220-3

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Item Name: Doubler

Stop

\*NS2\*

Start Date: 12/19/12 Start Qty: 6.00

\*6\*

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 6.00

\*6\*

Customer:

Reference:

Approvals:

Process Plan: MLD

Date: 12-12-12 Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3220	B								
100		0.00							
*100*	FLOW WATER JET								
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg D3220								
2024.000	Dwg Rev: B								
	Prog Rev: B								
	2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
*110*	Memo	0.00							
QC									
Quality Control									

6 0 Jm3-2-8

PTO

A

6 0 Jm3-2-8

NCR: Yes / No

## **WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: J. A. Smith, Date: 13/02/25  
Closed: C, Date: 11

QA Closed:  Date:

Work Order:	94455			DISPOSITION	AGAINST DEPARTMENT/PROCESS					
Part No.	D3220-3			Rework	Skid-tube	Crosstube	Water Jet	Engineering		
NCR No.	13-2345			Scrap	Machining	Small Fab	Prod. Eng. Coor.	Quality		
				Use-as-is	Thermoforming	Finishing	Rec/Store/Packaging	Other		
				Work Order Update	Large Fab	Composite	Supplier			
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data	13-2-8	110	6	part scrap use wrong material operation error QTY ⑥	DAS 16 3-8	Destroyed per end locn with B# 121889 QTY ⑥	13-2-7	DAS 15 3-8	DAS 16 3-8	
Equip/Tooling										
Operator	X									
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
Landing Gear				General						
Bending	Bend	Grain	Ovalized	Pressure/Forced						
Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure						
Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect	Weld						
Crushed/Crimped.	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled						
Cuffs	Contamination	Maintenance	Part Moved							
Heat Treat	Countersink	Mislabeled	Positioned Wrong							
Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge							
Ripples in Bend	Drill Holes	Offset								
Torque Waves in Extrusion	Drawing	Out of Calibration								
Turning Sequence	Finish	Out of Sequence								
Wave/Twist in Tube	Folio	Outside Dimensions								



NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

# **WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
				Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/>	Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/>	Water Jet <input type="checkbox"/> Prod. Eng. Coor. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/>	Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/>			
Part No. _____											
NCR No. _____											
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
Landing Gear				General							
Bending	Bend	Grain	Ovalized	Pressure/Forced							
Centre Not Concentric to O/S	BOM/Route	Hardware	Over/Under tolerance	Temperature/Cure							
Cracks	Broken/Damaged	Inspection Incomplete	Part Incorrect	Weld							
Crushed/Crimped	Burrs	Instructions Incomplete/Unclear	Part Lost/Missing	Wrong Stock Pulled							
Cuffs	Contamination	Maintenance	Part Moved								
Heat Treat	Countersink	Mislabeled	Positioned Wrong								
Inspection Strip in Tube	Cut Too Short	Misread	Power Loss/Surge								
Ripples in Bend	Drill Holes	Offset	Other								
Torque Waves in Extrusion	Drawing	Out of Calibration									
Turning Sequence	Finish	Out of Sequence									
Wave/Twist in Tube	Folio	Outside Dimensions									

Work Order ID 94455

December-19-12 11:08:15 AM

\*94455\*

Page 3

Item ID: D3220-3

Accept

\*N900040100\*

Setup

Start

\*NS1\*

Revision ID:

Item Name: Doubler

Stop

\*NS2\*

Start Date: 12/19/12 Start Qty: 6.00

\*6\*

Cust Item ID:

Required Date: 1/11/13 Req'd Qty: 6.00

\*6\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

\*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

150

\*150\*

Packaging

Packaging

Identify as per dwg & Stock Location:

0.00

ST/80A

13/3/15 (6)

160

\*160\*

QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

13/2/13 (8)

MF  
13-2-15

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____		DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No. _____		Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
NCR No. _____		Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
		Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
		Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector	
Doc/Data										
Equip/Tooling										
Operator										
Material										
Setup										
Other										
Process										
Supplier										
Training										
Unapproved										
FAULT CATEGORY										
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions						
				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <hr/> <hr/> <hr/>						
				<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <hr/> <hr/> <hr/>						
				<input type="checkbox"/> Other						

# Picklist Print

December-19-12 11:08:14 AM

Page 1

Work Order ID: 94455

Parent Item: D3220-3

Parent Item Name: Doubler

Start Date: 12/19/12

Required Date: 1/11/13

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP Rev: A New Issue 05-11-06 JLM

IPP: B 06.11.15 waterjet EC

IPP C: 08.11.26 Comment added to step 2 KJ Verified by: eC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M2024T3S.050 2024-T3 .050 sheet		Purchased	No			100	sf	253.1968	0.5937	37496844			Jm B-2-S

Location	Loc Qty	Loc Code
MAT022	253.1968408	
117684	22.4	
121216	91.2968408	
121889	139.5	(21889)

NCR: Yes / No

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____			DISPOSITION		AGAINST DEPARTMENT/PROCESS						
			Rework <input type="checkbox"/>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>				
			Scrap <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coor. <input type="checkbox"/>	Quality <input type="checkbox"/>				
			Use-as-is <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>				
			Work Order Update <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Setup											
Other											
Process											
Supplier											
Training											
Unapproved											
FAULT CATEGORY											
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube				<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio		<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspector Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions				<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/>	
										<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled	
										<input type="checkbox"/> Other	

DART AEROSPACE LTD	Work Order:	94455
Description: Doubler	Part Number:	D3220-3
Inspection Dwg: D3220	Rev: B	Page 1 of 1

# FIRST ARTICLE INSPECTION CHECKLIST

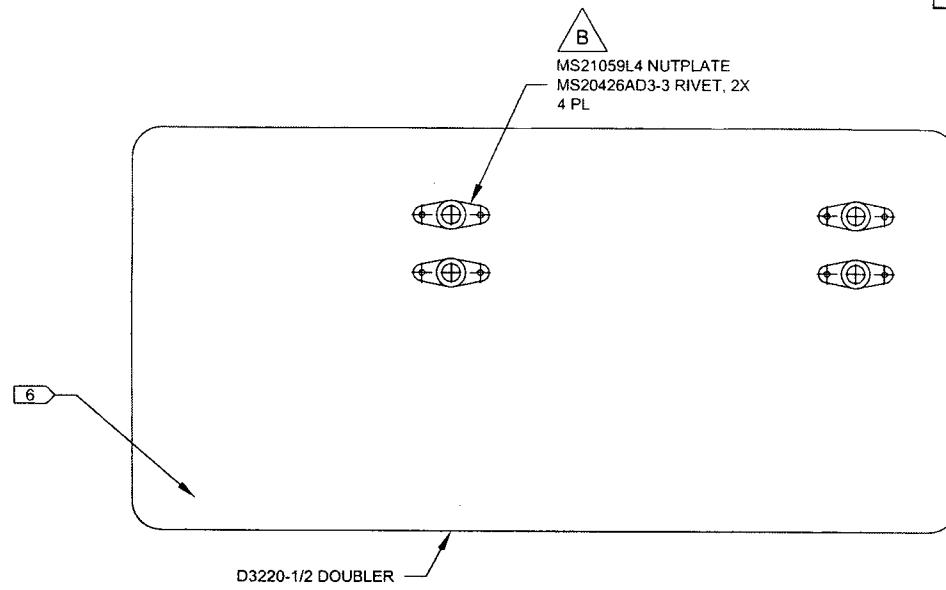
## X First Article      Prototype

04

Measured by:	Jm	Audited by:	JS -89	Prototype Approval:	N/A
Date:	13-2-8	Date:	13.2.8	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.02.27	New Issue P/O D412-698-013	KJ/RF	
B	10.02.02	Dwg Rev updated	KJ	

Item	Qty -041	Qty -042	Part Number	Description
1	X		D3220-041	DOUBLER ASSEMBLY
2		X	D3220-042	DOUBLER ASSEMBLY
3	1		D3220-1	DOUBLER
4		1	D3220-2	DOUBLER
5	4	4	MS21059L4	NUTPLATE
6	8	8	MS20426AD3-3	RIVET



SHOP DRAWING  
RETURN TO  
ENGINEERING  
UNCONTROLLED  
SUBJECT TO CHANGE  
WITHDRAWN  
WORK ORDER NO.  
NO. 9445545

12-12-19

RELEASED  
2009-09-09

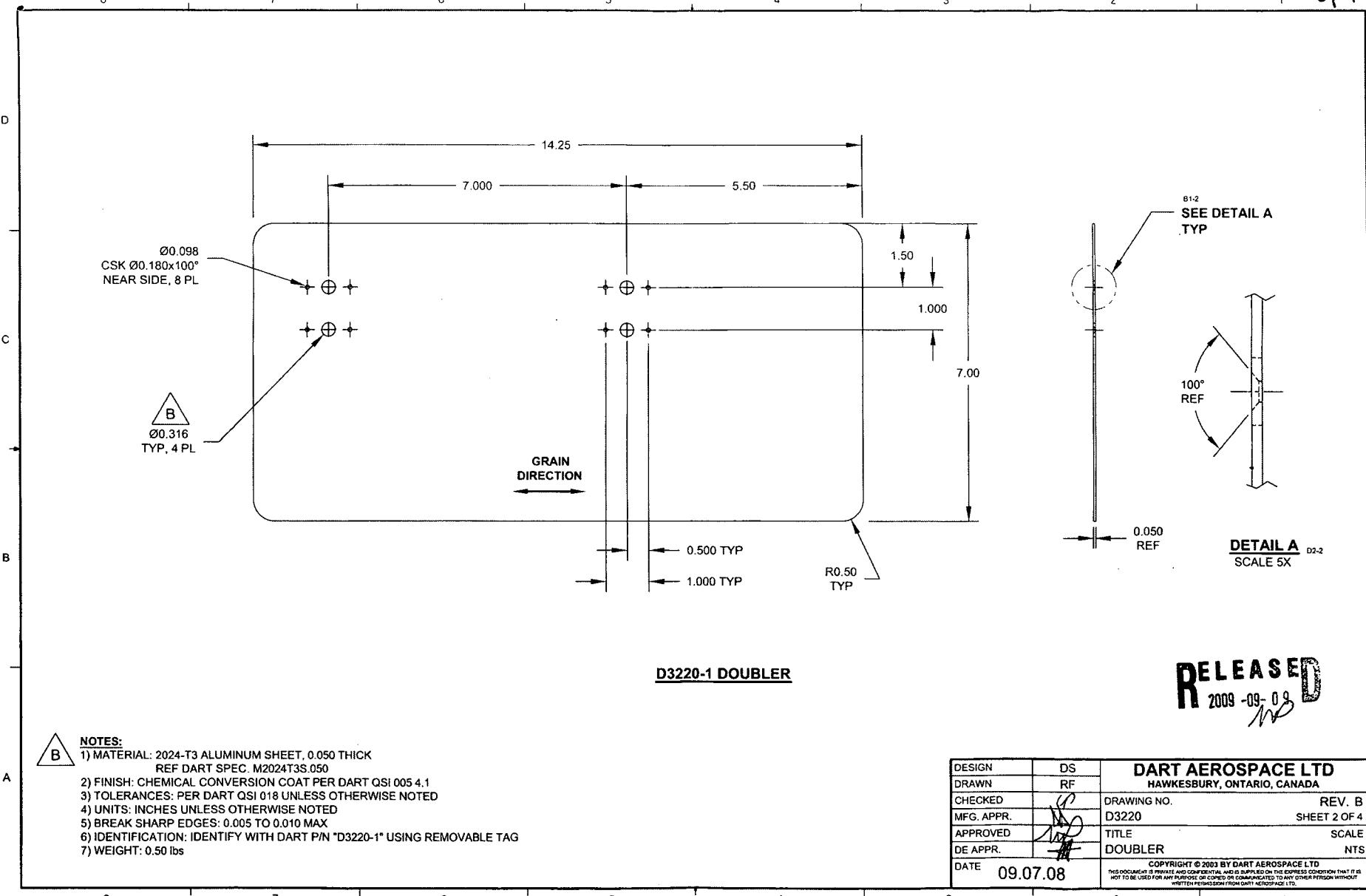
D3220-041 DOUBLER ASSEMBLY (SHOWN WITH D3220-1 DOUBLER)  
D3220-042 (OPPOSITE)

NOTES:

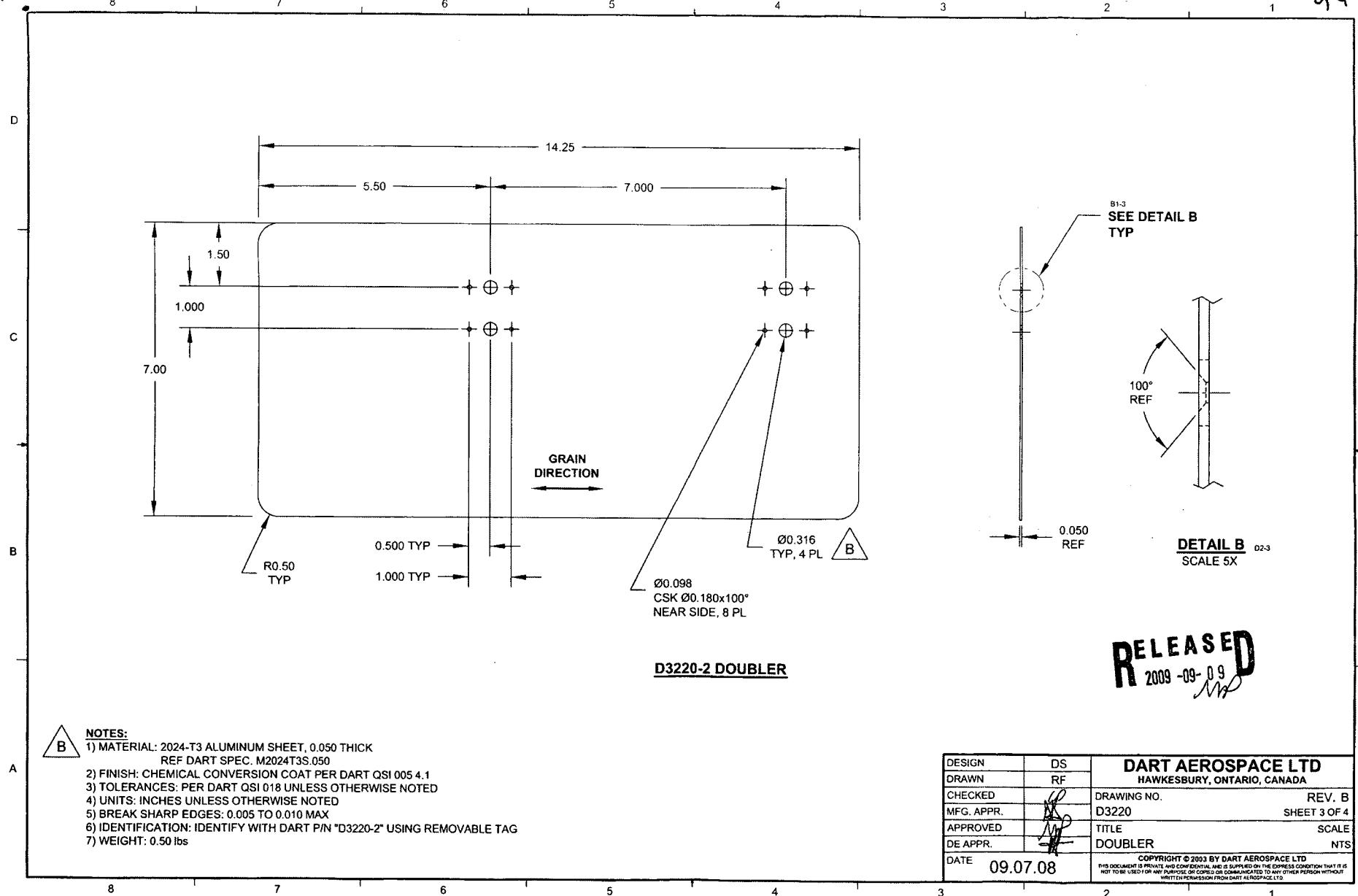
- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3220-04X" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: D3220-041 = 0.53 lbs  
D3220-042 = 0.53 lbs

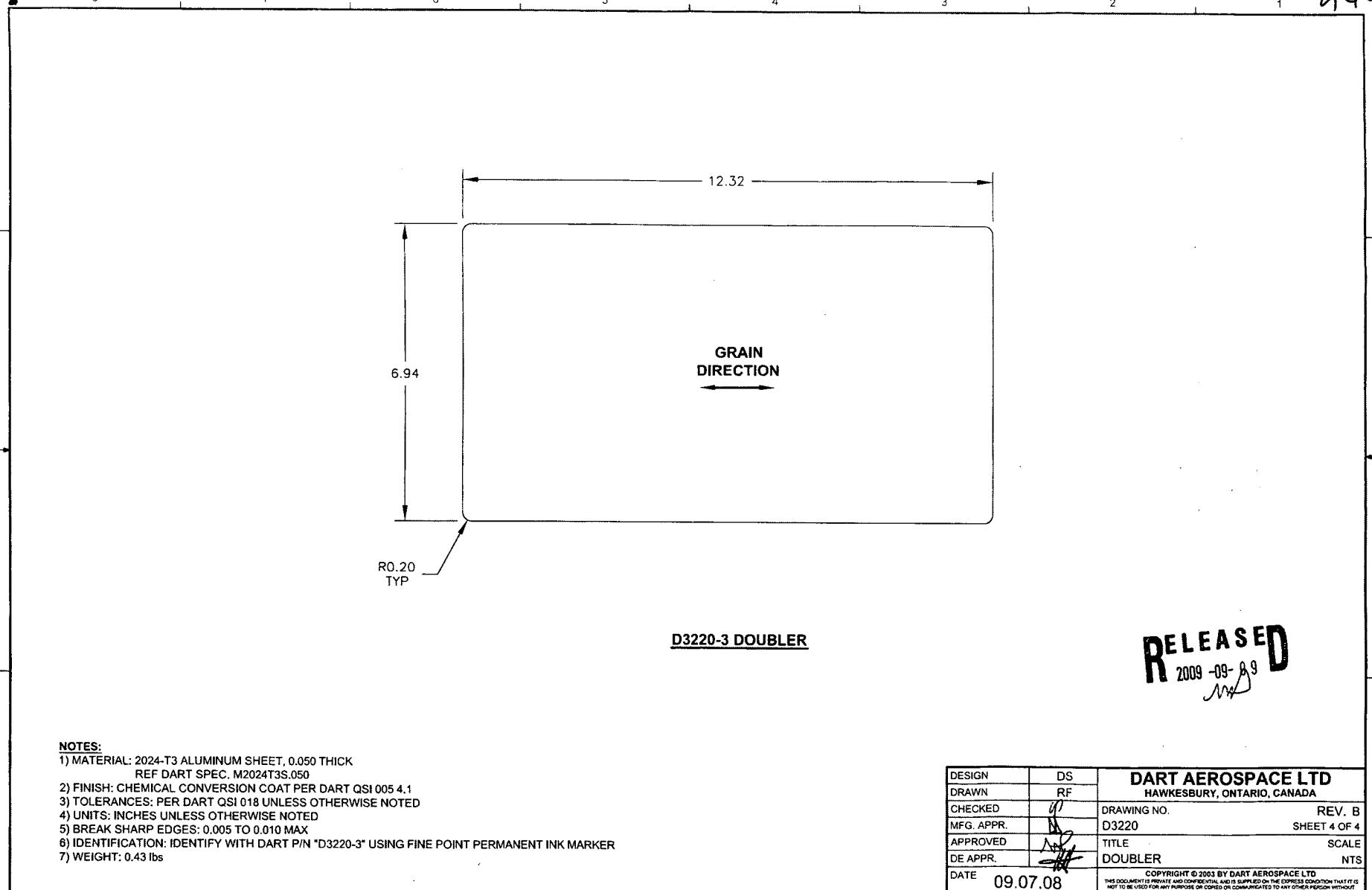
B	DRAWING UPDATED TO CURRENT STANDARDS. $\varnothing 0.316$ WAS $\varnothing 0.323$ (ZN C8-2, B4-3); MS20426AD3-3 WAS MS20426AD3-4 (ZN D4-1); CORRECT TYPO NOTE 1 (ZN A8-2, A8-3); REF PAR 09-025			RF	09.07.08
A	NEW ISSUE			CP	03.10.16
REV.	DS	REVISION	DESCRIPTION	BY	DATE
	DRAWN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
	CHECKED		DRAWING NO.	REV. B	
	MFG. APPR.		D3220	SHEET 1 OF 4	
	APPROVED		TITLE	SCALE	
	DE APPR.		DOUBLER	NTS	
	DATE	09.07.08			

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94455





RELEASED  
2009-09-09  
MK